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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,474	09/08/2003	Eugene T. Sanders	031264.083	2677
25461	7590	01/21/2005	EXAMINER	
SMITH, GAMBRELL & RUSSELL, LLP SUITE 3100, PROMENADE II 1230 PEACHTREE STREET, N.E. ATLANTA, GA 30309-3592			MAYO III, WILLIAM H	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary

Application No.

10/657,474

Applicant(s)

SANDERS, EUGENE T.

Examiner

William H. Mayo III

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on December 6, 2004. These drawings are not approved because Figures 1a-1f lack the proper cross-hatching which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate all of the conductive and reinforcing materials is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-9, 11-12, and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamnitz (Pat Num 4,952,012) in view of Applicant's Own Admission of Prior Art (herein referred to as AOAPA). Stamnitz discloses an optical/electrical cable (Figs 1-3b) that provides protection for the optical/electrical core from abrasion at cable suspension points (abstract). Specifically, with respect to claim 1, Stamnitz discloses an electrical cable (Fig 3) comprising a reinforcing strands (i.e. core 15 & 20), conducting strands (41-46) surrounding the reinforcing strands (15 & 20) and located near the outer periphery thereof (Fig 3), and a holding member (17) containing an optic

fiber (19) located in an interstice of the electrical cable (10'', i.e. interstices of conducting members 41-46). With respect to claim 2, Stamnitz discloses that the cable (10'') has a strength member (60 & 70) adjacent the holding member (17, Fig 3). With respect to claim 2, Stamnitz discloses that the cable (10'') has a strength member (60 & 70) that is attached to the holding member (17, Fig 3, via insulating layer 25b). With respect to claim 4, Stamnitz discloses that the strength member (60 & 70) is an electrically conductive member (Col 11, lines 15-20). With respect to claim 6, Stamnitz discloses that the diameter of the strength members (60 & 70) is greater than the diameter of the holding member (17, Fig 3). With respect to claim 7, Stamnitz discloses that the holding member (17) is a steel tube (Col 9, lines 14-15). With respect to claim 8, Stamnitz discloses that the electrical cable (10'') comprises strands (41-46) forming a core (middle components surrounded by 25) and a holding member (17) containing an optic fiber (19), wherein the holding member (17) replaces at least one of the strands (41-46, Col 10, lines 39-43). With respect to claim 9, Stamnitz discloses that the strands (41-46) are comprised of conducting strands (Col 10, lines 39-43) near the outer periphery of the core (middle components surrounded by 25) and reinforcing strands (15) that are surrounded by the conducting strands (41-46). With respect to claim 11, Stamnitz discloses that the holding member (17) replaces at least one of the conducting strands (41-46). With respect to claim 12, Stamnitz discloses that a second holding member (18) replaces at least one of the conducting strands (41-46). With respect to claim 14, Stamnitz discloses an electrical cable (10'') comprising a conductive core (middle components surrounded by 25), a means (17) for holding an optic fiber (19), and a

means for strengthening the holding means (17), and a means (25) for strengthening the holding means (17). With respect to claim 15, Stamnitz discloses a method of manufacturing the electrical cable (10") comprising forming a core of strands (41-46), feeding the core of strands (41-46) into a strander device (not shown, wires 41-46 are helically wound therefore had to have been stranded) and placing a holding member (25) on the core of strands (41-46, Col 10, lines 53-57). With respect to claim 16, Stamnitz discloses that a method of manufacturing the electrical cable (10") comprising covering the core strands (41-46) and the holding member (25) with additional strands (50). With respect to claim 17, Stamnitz discloses a method of manufacturing the electrical cable (10") comprising feeding the core strand (15) into the strander device having a flyer for applying additional strands (41-46) and a planetary flyer for a holding member (17), thereby matching the rotation of the flyer with the rotation of the planetary flyer (i.e. there method step has to be inherent given the conducting strands (41-46) and the holding member (17-19) are placed in equal form around the tube (20)), applying additional strands (50) and the holding member (25) to the core strands (41-46). With respect to claims 18-20, Stamnitz discloses that the holding member (17) contains an optic fiber (19) located in an interstice of the electrical cable (10", i.e. interstices of conducting members 41-46).

However, Stamnitz doesn't necessarily disclose the fiber optic being a temperature sensing means (claims 1, 8, 14, 15, and 18-20).

AOAPA teaches in the Background of the Invention that fiber optics are commonly utilized in electrical cables as temperature sensing means (Pages 2-3, lines

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4-25 & 1-9 respectively). Specifically, AOAPA teaches several prior art cables that utilize fiber optics as temperature sensing means, such as Kleinerman (Pat Num 5,991,479), which teaches that fiber optics are commonly utilized as sensors to measure temperature along the entire length of the cable (Page 2, lines 8-9 of Applicant's Specification), Kleinerman (Pat Num 5,696,863), which teaches that providing long unbroken optical fibers as a distributed sensor which is sensitive to temperatures thereby providing accurate measurements along the cable of distributed temperatures (Col 4, lines 29-35 of Kleinerman), and Ruffa (Pat Num 6,072,928), which teaches that temperature sensing means are commonly and preferably fiber optic because they have a very fast thermal response time because of there small diameter (Col 3, lines 27-28 & 39-41 of Ruffa).

With respect to claims 1, 8, 14, 15, and 18-20, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the fiber optics of Stamnitz to be utilized as temperature sensing means as taught by AOAPA because AOAPA teaches many prior art references that utilize fiber optics as temperature sensing means, to measure temperature along the entire length of the cable (Page 2, lines 8-9 of Applicant's Specification), in order to provide accurate measurements along the cable of distributed temperatures (Col 4, lines 29-35 of Kleinerman), because they have a very fast thermal response time because of there small diameter (Col 3, lines 27-28 & 39-41 of Ruffa) since it has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably

distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

4. Claims 8-10 & 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (EP Pat Num 2 240 638) in view of Applicant's Own Admission of Prior Art (herein referred to as AOAPA). With respect to claim 8, Smith discloses that the electrical cable (Fig 1) comprising strands (D) forming a core (middle components surrounded by E) and a holding member (G) containing an optic fiber (H), wherein the holding member (G) replaces at least one of the strands (D, Fig 1). With respect to claim 9, Smith discloses that the strands (D) are comprised of conducting strands (Page 4, lines 4-5) near the outer periphery of the core (middle components surrounded by C) and reinforcing strands (A) that are surrounded by the conducting strands (D). With respect to claim 10, Stamnitz discloses that the holding member (G) replaces at least one of the conducting strands (D, Fig 1). With respect to claim 12, Stamnitz discloses that a second holding member (left G) replaces at least one of the conducting strands (left D). With respect to claim 13, Stamnitz discloses that a second holding member (left G) may replace at least one of the reinforcing strands (Page 2, second paragraph).

However, Stamnitz doesn't necessarily disclose the fiber optic being a temperature sensing means (claim 8).

AOAPA teaches in the Background of the Invention that fiber optics are commonly utilized in electrical cables as temperature sensing means (Pages 2-3, lines 4-25 & 1-9 respectively). Specifically, AOAPA teaches several prior art cables that utilize fiber optics as temperature sensing means, such as Kleinerman (Pat Num

5,991,479), which teaches that fiber optics are commonly utilized as sensors to measure temperature along the entire length of the cable (Page 2, lines 8-9 of Applicant's Specification), Kleinerman (Pat Num 5,696,863), which teaches that providing long unbroken optical fibers as a distributed sensor which is sensitive to temperatures thereby providing accurate measurements along the cable of distributed temperatures (Col 4, lines 29-35 of Kleinerman), and Ruffa (Pat Num 6,072,928), which teaches that temperature sensing means are commonly and preferably fiber optic because they have a very fast thermal response time because of there small diameter (Col 3, lines 27-28 & 39-41 of Ruffa).

With respect to claim 8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the fiber optics of Stamnitz to be utilized as temperature sensing means as taught by AOAPA because AOAPA teaches many prior art references that utilize fiber optics as temperature sensing means, to measure temperature along the entire length of the cable (Page 2, lines 8-9 of Applicant's Specification), in order to provide accurate measurements along the cable of distributed temperatures (Col 4, lines 29-35 of Kleinerman), because they have a very fast thermal response time because of there small diameter (Col 3, lines 27-28 & 39-41 of Ruffa) since it has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stamnitz (Pat Num 4,952,012) in view of Applicant's Own Admission of Prior Art (herein referred to as modified Stamnitz) as applied to claim 1 above, further in view of Engineering Design Guide, 3rd Edition by C & M Corporation (herein referred to as C & M). Modified Stamnitz discloses an optical/electrical cable (Figs 1-3b) that provides protection for the optical/electrical core from abrasion at cable suspension points (abstract) as disclosed above with reference to claims 1 & 8.

However, modified Stamnitz doesn't necessarily disclose the electrical conductive material being made of copper (claim 5).

C & M teaches that copper is well known as a conductor material and is the most widely used conductor material because of its fine properties, durable physical properties, low cost, flexibility, and because it can be easily formed and is commercially available in a wide range of sizes and shapes (see under the heading copper).

With respect to claim 5, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the strength member of modified Stamnitz to comprise the electrically conductive copper material as taught by C & M because C & M teaches that such a material is the most widely used conductor material because of its fine properties, durable physical properties, low cost, flexibility, and because it can be easily formed and is commercially available in a wide range of sizes and shapes (see under the heading copper) and since it has been held to be within general skill of a worker in the art to select a known material on the basis of its

suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is De Angelis (Pat Num 6,392,551), which disclose an electrical cable comprising a optic fiber utilized as a temperature sensing device.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Mayo III
Primary Examiner
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WHM III

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September 24, 2004